

Application No. 09/802,792

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—Figure 1 is a plan view of a single photosensitive chip, generally indicated as 10, of a design found, for example, in a full-color photosensor scanner or digital camera. A typical design of a full-page-width scanner will include a plurality of chips 10, each chip being approximately one-half to one inch in length, the chips being butted end-to-end to form an effective collinear array of photosensors, which extends across a page image being scanned. Each chip 10 is a silicon-based integrated circuit chip having defined in a main surface thereof three independently-functioning linear arrays of photosensors, each photosensor being here indicated as 14. A number of contact pads 12 are used for external circuitry to interact with circuitry (not shown) inside the chip 10, such as to provide instructions to the chip 10 or receive video signals from the chip 10. The photosensors are disposed in three parallel rows which extend across a main dimension of the chip 10, these individual rows being shown as 16A, 16B, and 16C. Each individual row of photosensors on chip 10 can be made sensitive to a particular color, by applying to the particular row a spectrally translucent filter layer which covers only the photosensors in a particular row. In a preferred embodiment of the present invention, the three rows of photosensors are each filtered with a different primary color, such as red, green, and blue. Generally, each individual photosensor 14 is adapted to output a charge or voltage signal indicative to the intensity of light of a certain type impinging thereon; various structures, such as transfer circuits, or charge-coupled devices, are known in the art for processing signal output by the various photosensors corresponding to photosites 14.--